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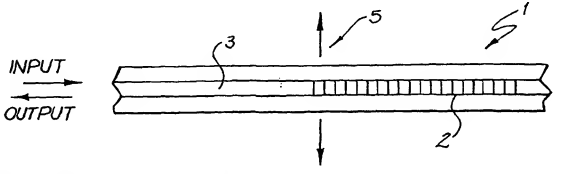

(57) Abstract: An optical waveguide (1) has a grating structure (2) in which gratings of different orders are superimposed. When first and second order gratings are superimposed, input light is partially reflected by the first order component and partially coupled out of the waveguide by the second order component. The second order component can also be used to couple external light into the waveguide (1). The grating structure (2) has applications to free space couplers, optical sensors, and suppression of ripples in dispersion compensators.

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